



U.S. Fish & Wildlife Service

Currents

REGION 2 – SOUTHWEST REGION

Fisheries Program Highlights (January - March 2007)

June 2007

Volume 3, Number 2

Edited by Jeremy B. Voeltz, Arizona FRO

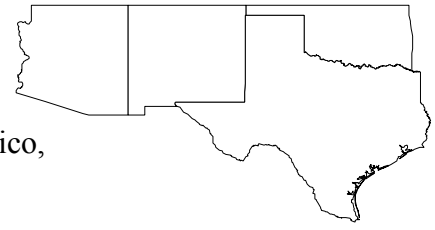


Arizona FRO biologists and volunteers backpack electrofishing in Bright Angel Creek (Grand Canyon National Park) to remove nonnative fish to benefit the native fishes.

Read the complete story on page 6

REGION 2 – SOUTHWEST REGION

The Southwest Regional Office, located in Albuquerque, New Mexico, administers 12 fisheries field stations in Arizona, New Mexico, Oklahoma, and Texas.



The Division of Fishery Resources in the Southwest encompasses 3 Fishery Resources Offices, 5 National Fish Hatcheries, 3 Fish Technology Centers, and 1 Fish Health Unit. The Division of Fishery Resources also has responsibility to control aquatic invasive species.

Fishery Resources Offices

The 3 Fishery Resources Offices (Arizona Fishery Resources Office, New Mexico Fishery Resources Office, and Oklahoma Fishery Resources Office) evaluate wild native fish stocks and their habitats, and where feasible, work with partners to restore habitats and fish populations.

These offices provide technical fish management assistance to tribes and other partners with a primary focus on native and interjurisdictional species.

National Fish Hatcheries

The National Fish Hatcheries (Willow Beach, Alchesay-Williams Creek, Uvalde, Tishomingo, and Inks Dam) develop and maintain brood stocks of important fish species, both sport fishes and critically imperiled non-game fishes. The hatcheries are the source of fish and eggs distributed to partners with similar aquatic conservation missions, such as native fish restoration or fulfilling federal mitigation responsibilities.

Hatcheries are often called upon to provide a place of refuge for imperiled aquatic organisms, such as aquatic plants and amphibians.

Fish Technology Centers

The Fish Technology Centers (Dexter, Mora, and San Marcos) develop leading-edge technology for use by tribal, state, and federal fish hatcheries and fishery biologists to make fish culture more productive, cost-effective, and scientifically sound.

Technology improves hatchery efficiency, helps assure the genetic integrity of fishes, at the same time minimizing the effects of hatchery fish on wild fish stocks.

Private aquaculture industry also benefits from scientific information generated by the Fish Technology Centers.

Fish Health Unit at Dexter

Regional Fish Health Unit biologists assess the well-being of fish that live in the wild or are raised at hatcheries. Fish health

biologists are highly trained in various scientific disciplines, like immunology, epidemiology, toxicology, and genetics. They apply that knowledge in fish health assessments that might lead to early detection of potentially devastating diseases, prescribing preemptive measures.

The National Wild Fish Health Survey allows biologists to assess wild stocks and to share scientific findings with other scientists or the public through a national database.

Fish health assessments at state and federal hatcheries promote good fish culture and ultimately better, healthier fish stocks.

The U.S. Fish & Wildlife Service's fish health program takes a proactive and cooperative approach, networking with other health professionals to ensure healthy fisheries.





San Marcos NFHTC and Partners are Monitoring the Levels of an Exotic Gill Parasite in Comal River

The San Marcos National Fish Hatchery and Technology Center is collaborating with the Edwards Aquifer Authority, BIO-WEST Inc., and Texas State University to examine factors influencing the abundance of a parasite in the Comal River. In order to gain a better understanding of a parasite's threat to the fountain darter's survival in the rivers, a study is being conducted to determine the effect of stream discharge on the density of cercariae in the river. It is likely that as stream discharge decreases, parasite densities will increase.

The fountain darter is a federally endangered fish whose entire wild population is restricted to the Comal and San Marcos rivers of central Texas. In 1996, an Asian trematode parasite was discovered on the gills of fountain darters collected from the Comal River. The life cycle of the trematode includes three hosts. The first intermediate host, a snail, sheds free swimming cercariae that attach to the gills of fishes, the second intermediate hosts. The trematode encysts on the gills and

can cause respiratory problems, lesions, and mortalities when cysts occur in high numbers. The definitive hosts of the parasite are fish-eating birds and mammals.

A sampling plan sufficient to estimate the number of cercariae present in a cross section of river has been completed, and sampling of three cross sections of river began in June 2006. Samples are being collect every 2 weeks and will continue through June 2007. To date, almost 600 5-L water samples have been collected and processed for cercarial density. The range in numbers of parasites per sample has been from 0 (in five samples) to 307. As of this date no obvious associations between cercarial densities and spring discharge have become apparent.

Anne Bolick and David Huffman, TX State University-San Marcos, and Tom Brandt, San Marcos NFHTC

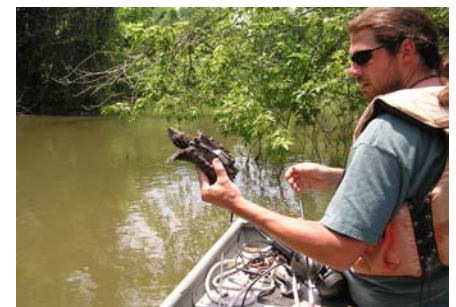
Alligator Snapping Turtle Restoration Efforts Continue in Oklahoma

Sequoyah Wildlife Refuge staff and Oklahoma State University students worked with hatchery staff to release and monitor one-year old alligator snapping turtles raised by the hatchery during the 2006 summer.

Fifteen turtles were PIT tagged and tracked using radio transmitters and released into Vian Creek on the Sequoyah Wildlife Refuge. Biologists

monitored turtle movements and were able to identify the turtles' habitat preference. Overall, the transplant of alligator snapping turtles to their native environment was successful with only one confirmed mortality caused by a river otter.

Reintroduction of the alligator snapping turtle to its native range in Oklahoma is a cooperative effort between Oklahoma State University, Oklahoma Dept. of Wildlife Conservation, Tulsa Zoo, West Texas State University, Southeastern State University, Dexter NFH, Tulsa Ecological Services Office, Turtle Survival Alliance, Chelonian Institute, San Diego Zoo, Sequoyah NWR, Tishomingo NWR, Arkansas Game and Fish Commission, Natchitoches NFH, TREES (hatchery friends group) and the hatchery.



Snapping Turtle with radio transmitter released into Vian Creek on the Sequoyah national Wildlife Refuge.

A water recirculation system was built for the alligator snapping turtle culture building in the late fall. The culture building currently houses 196 turtles ranging from nine months to three years old. The recirculation system includes a UV and sand filter which helps prevent parasites and disease. Broodstock turtles are held outside in

hatchery ponds. The hatchery is expecting to obtain 10-12 alligator snapping turtle pairs from the Hogan State Fish Hatchery in Arkansas this coming April to use as broodstock for the propagation of more turtles for release into the wild.

Kerry Graves, Tishomingo NFH

2006 Paddlefish Rearing Season a Success at Tishomingo NFH

The 2006 paddlefish season proved successful with a total of 10,920 Red River paddlefish released into Lake Texoma during the late summer. The 2006 paddlefish production season allowed fish to be reared to larger sizes to maximize survival. More than 99 % of the paddlefish released into Lake Texoma averaged 18+ inches and each fish was tagged with coded wire. A total of 8,074 Arkansas River paddlefish were reared at the hatchery and released into John Redmann Reservoir in Kansas during the summer to satisfy a stocking commitment. A paddlefish management plan currently in the draft stage is being developed for management of the species in Oklahoma specifically Lake Eufaula. The hatchery is preparing for the upcoming paddlefish spawning season this spring.

Kerry Graves, Tishomingo NFH



Paddlefish are reared at Tishomingo NFH before being released into the wild.

Fish Production for Tribal Fisheries in Full Swing at Inks Dam National Fish Hatchery

Fish production and distribution for Tribal fishery management programs continued during this quarter of fiscal year 2007. In addition, fish were stocked in accordance with *The Striped Bass Fishery of the Gulf of Mexico, United States: A Regional Management Plan*. A Cooperative Agreement has been developed between Burnet County, Texas and Inks Dam National Fish Hatchery to produce hybrid striped bass to enhance recreational fishing on Lake Buchanan, Texas. This multi-year agreement will greatly benefit the surrounding community as recreational fishing is a popular activity in this area of the state. We would like to take this opportunity to say farewell to Jim Sutton. Jim retired in January with 34 years of government service. Jim spent over 20 of

those years driving the Regional Distribution Unit, and during his last year of service he surpassed the 1,000,000 mile mark while distributing fish for the Service. Many fish, as well as many diverse species, were distributed for the Fish and Wildlife Service during Jim's tenure on the RDU. Thank you, Jim, for your hard-work and dedication to the Service. We would also like to welcome Gerard Walk to Inks Dam NFH. Gerard started an appointment as a motor vehicle operator this quarter and has greatly assisted with our fish distribution duties.

Marc Jackson, Inks Dam NFH



Jim Sutton retired in January after 34 years of government service.

Two new populations of Apache trout started in Arizona

The Arizona Fishery Resources Office, along with the Arizona Game and Fish Department and White Mountain Apache Tribe recently reestablished the threatened Apache trout into two new streams on the A-SNF (Apache-Sitgreaves National Forest) in Arizona. The Apache trout were collected from the West Fork of the Black River and Soldier

Springs Creek on the A-SNF, and transported to Fish Creek and the East Fork of the Little Colorado River. These new populations get the species two steps closer to recovery.

Jeremy Voeltz, Arizona FRO



Biologists collect Apache trout from Soldier Springs Creek to transport to the East Fork of the Little Colorado River

Endangered Fish Thriving at TNC Preserve

Arizona FRO biologists Assisted the Nature Conservancy (TNC) and Arizona Game and Fish Department in monitoring three endangered fishes at the TNC's San Pedro River Preserve.

Gila topminnow, desert pupfish, and razorback sucker (all listed as endangered) were established in two ponds on the Preserve to provide: 1) refuge for the species and 2) additional fish to be used for recovery efforts in Arizona.

Desert pupfish from the ponds have already been stocked into three additional sites and have provided surplus fish for research opportunities. Razorback suckers have been used to augment the stocking program in the Verde

River in central Arizona. Gila topminnow will be used in upcoming recovery efforts in the lower San Pedro river drainage.

Marty Underwood, Arizona FRO



Endangered Gila topminnow from the TNC San Pedro Preserve.

'Soft Release' Strategy used by New Mexico FRO to stock endangered Colorado pikeminnow in the San Juan River

Colorado pikeminnow is one of two federally protected fishes native to the San Juan River-New Mexico, Colorado, and Utah. The goal of the San Juan River Recovery Implementation Program (SJRIIP) is to recover Colorado pikeminnow and razorback sucker while allowing water development to continue in the San Juan Basin. An augmentation plan for Colorado pikeminnow was developed and finalized in 2003 and provided necessary guidance for an eight-year augmentation effort resulting in self sustaining population of 800 adult fish.

A major concern for stocking Colorado pikeminnow has been short-term retention in the system

and avoidance of mass downstream dispersion. Individual stocking success has varied since efforts began and a variety of stocking strategies to improve retention are currently being investigated.

In the spring of 2007, New Mexico Fishery Resources Office with the assistance of Bureau of Indian Affairs, New Mexico Department of Game and Fish, and Dexter National Fish Hatchery and Technology Center stocked 1,590 age-I Colorado pikeminnow into the San Juan River. Prior to stocking, site evaluations were conducted to find suitable habitats to acclimate fish for up to 24 hours. Several features were considered including vehicle access, availability of low velocity habitats, ability to block off acclimation area, and suitable water quality conditions.



Age-1 Colorado pikeminnow stocked into the San Juan River in 2007

Once a site was located, the area was blocked off and sampling via seine and backpack electrofishing was used to characterize the fish community. All non-native predatory fishes were removed and sacrificed while native fishes were relocated to the adjacent river. Of interesting note was the collection of an individual

Colorado pikeminnow (total length = 54 mm) that had been stocked in the fall of 2006.

Colorado pikeminnow were stocked in the enclosure which included a variety of habitat and flow conditions including pools, runs, and riffles with associated cover for avian predator avoidance. Fish were acclimated for a total of 16 hours upon which time all block nets were removed.

All fish stocked had been implanted with a PIT tag. Future monitoring efforts will provide valuable information on the success of this individual stocking and will aid researchers in refining future stocking protocols.

Jason Davis, New Mexico FRO



Biologists from the FWS and BIA off loading Colorado pikeminnow at the acclimation site.

Bright Angel Creek Nonnative Trout Reduction Project – Grand Canyon National Park

The Arizona FRO is working with Grand Canyon National Park (GCNP) on a project to restore native fish populations in a tributary to the Colorado River. This project occurs in Bright

Angel Creek, a second-order tributary in the Colorado River drainage within GCNP.

To try and restore the native fish community in Bright Angel Creek, the Arizona FRO is working with the Park to reduce nonnative trout populations using a dual approach where a weir is placed near the confluence of the Colorado and Bright Angel Creek to intercept migrating fish and electrofishing to mechanically remove nonnative trout.

Currently, Bright Angel Creek is home to nonnative brown and rainbow trout and native species such as speckled dace, bluehead and flannelmouth sucker. There is some evidence that endangered humpback chub use the inflow areas of Bright Angel Creek during some parts of the year. The hope is that as trout removal continues that more humpback chub will use Bright Angel Creek and perhaps even use it for spawning in spring and in the fall.

Implementing this project is logistically challenging due to the remote area and the National Park status which prohibits most forms of transportation. One exception is the Park Service's new helicopter which allowed us to transport all of our sampling gear to the removal reach. However, even though the gear got a ride down, all the sampling crews had to make the 7-mile trek into the bottom of the Grand Canyon, which is almost a mile difference in elevation.



Nonnative brown trout from Bright Angel Creek

In fall 2006, 54 brown trout and 36 rainbow trout were captured in the weir and 158 brown trout were removed from the sampling reach in Bright Angel Creek located from the weir to river kilometer 3.35 using electrofishing. This represents an average of 55% of the estimated number of brown trout present in this reach. Most surprising from these initial surveys were the high numbers of rainbow trout relative to the brown trout. Rainbow trout densities in the removal reach were 3 and 1.6 times higher than brown trout.



Weir installed in Bright Angel Creek to trap nonnative fishes moving upstream

To test the effectiveness of the removal in Bright Angel Creek, the weir was put back into place this spring to catch native suckers migrating into the creek to spawn. We hope that spawning success of these native species will be higher

after removal of the nonnative trout and the effectiveness of this management action can be further tested using young-of-year recruitment rates that will be measurable later this summer.

However, it remains to be seen as to whether or not removal of trout on a small scale (project currently only covers first 3 km of Bright Angel Creek) and the lack of a permanent barrier on the

downstream end will contribute to native fish recovery in Bright Angel Creek. With free access to Bright Angel Creek when the weir is not in place, both rainbow and brown trout can move into the creek from the Colorado River mainstem. Despite the challenges of this project, both biologically and politically, the Arizona FRO is excited about this unique opportunity to work with a sister DOI agency on the potential

restoration of native fish in Grand Canyon National Park. In addition, the work completed in Bright Angel Creek will help in other restoration projects both in the Park as well as in the Southwest by providing critical data on the efficacy of mechanical removal efforts.

Pam Sponholtz and David R. VanHaverbeke, Arizona FRO



Bright Angel Creek, at its confluence with the Colorado River, Grand Canyon National Park

SOUTHWEST REGIONAL FISHERIES OFFICES

Regional Office, Division of Fisheries, PO Box 1306, Albuquerque, NM 87103

Greg Pratschner, Assistant Regional Director (Greg_Pratschner@fws.gov)

ARIZONA

Arizona Fishery Resources Office

PO Box 39

Pinetop, AZ 85935

Stewart Jacks (Stewart_Jacks@fws.gov)

928-338-4288

Alchesay-Williams Creek National Fish Hatchery

PO Box 2430

Pinetop, AZ 85935

Vacant (Acting, Sherry_White@fws.gov)

928-338-4901

Willow Beach National Fish Hatchery

25804 N. Willow Beach Road

HC 37, Box 17

Willow Beach, AZ 86445

Mark Olson (Mark_Olson@fws.gov)

928-767-3456

NEW MEXICO

New Mexico Fishery Resources Office

3800 Commons NE

Albuquerque, NM 87109

Jim Brooks (Jim_Brooks@fws.gov)

505-342-9900

Dexter National Fish Hatchery & Technology Center

PO Box 219

Dexter, NM 88230

Manuel Ulibarri (Manuel_Ulibarri@fws.gov)

505-734-5910

Mora National Fish Hatchery & Technology Center

P.O. Box 689

Mora, NM 87732

John Seals (John_Seals@fws.gov)

505-387-6022

OKLAHOMA

Oklahoma Fishery Resources Office

5701 W. Highway 7

Tishomingo, OK 73460

Brent Bristow (Brent_Bristow@fws.gov)

580-384-5710

Tishomingo National Fish Hatchery

5503 W. Highway 7

Tishomingo, OK 73460

Kerry Graves (Kerry_Graves@fws.gov)

580-384-5463

TEXAS

Inks Dam National Fish Hatchery

Route 2, Box 32-B

Burnet, TX 78611

Marc Jackson (Marc_Jackson@fws.gov)

512-793-2474

Uvalde National Fish Hatchery

754 Country Road 203

Uvalde, TX 78801

Grant Webber (Grant_Webber@fws.gov)

830-278-2419

San Marcos National Fish Hatchery & Technology Center

500 E. McCarty Lane

San Marcos, TX 78666

Tom Brandt (Tom_Brandt@fws.gov)

512-353-0011

Questions or comments regarding *Currents* can be addressed
to Jeremy Voeltz, Arizona Fishery Resources Office;
PO Box 39 Pinetop, AZ 85935; 928-338-4288;
Jeremy_Voeltz@fws.gov